

SIDACtor Protection Thyristor

Package DO-214AA



Description

Fast Delivery Time

P31B SIDACtor Protection Thyristor protect telecommunications equipment such as ADSL Modems, Router, Telephone, CCTV Camera, Digital Video Record, Video Capture Card, Twisted-pair video transmitter, CATV Splitter.....Etc.

P31B SIDACtor Protection Thyristor are used to enable equipment to meet various regulatory requirements including GR 1089, ITU K.20/21, IEC 61000-4-5, YD/T 1082, YD/T 993, YD/T 950, TIA-968-A, TIA-968-B



Features

Compared to surge suppression using other technologies, P31B devices offer absolute surge protection regardless of the surge current available and the rate of applied voltage (dv/dt). P31B devices:

- 100% Lead-Free (RoHS Compliant)
- Cannot be damaged by voltage
- Eliminate hysteresis and heat dissipation typically found with clamping devices
- Eliminate voltage overshoot caused by fast-rising transients
- Are non-degenerative
- Have low capacitance, making them ideal for high-speed transmission equipment

Electrical Characteristics

Parameter	Definition
V_{DRM}	Peak Off-state Voltage — maximum voltage that can be applied while maintaining off state
V_S	Switching Voltage — maximum voltage prior to switching to on state
I_H	Holding Current — minimum current required to maintain on state
I_S	Switching Current — maximum current required to switch to on state
I_T	On-state Current — maximum rated continuous on-state current
V_T	On-state Voltage — maximum voltage measured at rated on-state current
Capacitance	Off-state Capacitance — typical capacitance measured in off state
I_{DRM}	Leakage Current — maximum peak off-state current measured at V_{DRM}
I_{PP}	Peak Pulse Current — maximum rated peak impulse current
I_{TSM}	Peak One-cycle Surge Current — maximum rated one-cycle AC current
di/dt	Rate of Rise of Current — maximum rated value of the acceptable rate of rise in current over time

Electrical Characteristics



Part Number	V _{DRM} @I _{DRM} =5 μ A	V _S @100V/μs	I _H	I _S	I _T	V _T @I _T =2.2Amps	Capacitance @1MHz,2V bias
	V _{min}	V _{max}	mA _{min}	mA _{max}	A _{max}	V _{max}	pF
P31B	275	350	150	800	2.2	4	45

Notes:

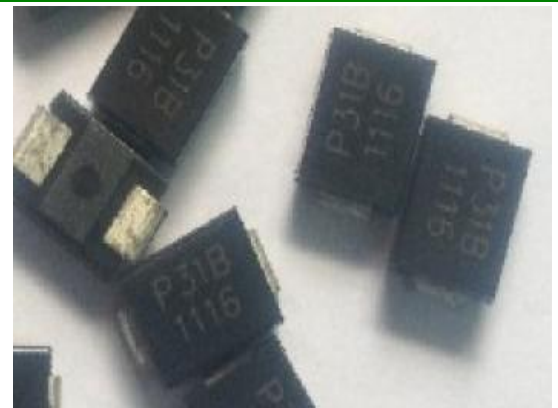
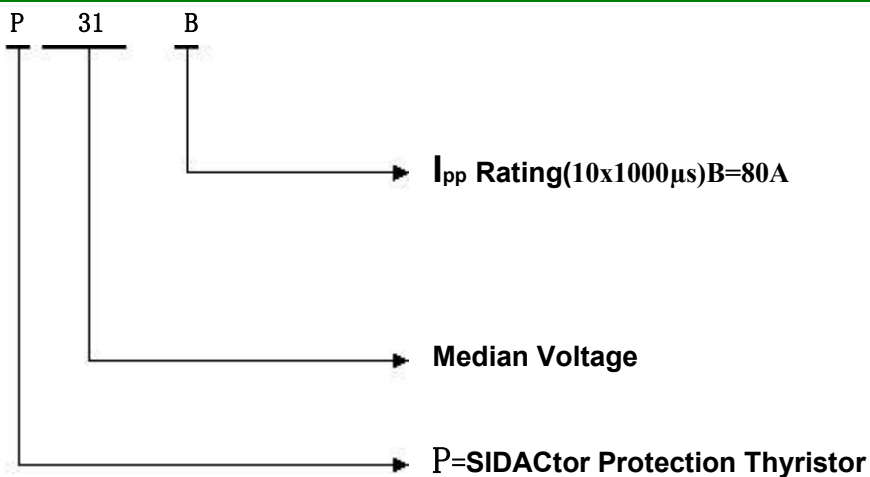
-All measurements are made at an ambient temperature of 25°C .I_{pp} applies to -40°C through +85°C temperature range .

-Off-state capacitance(Co) is typical value.

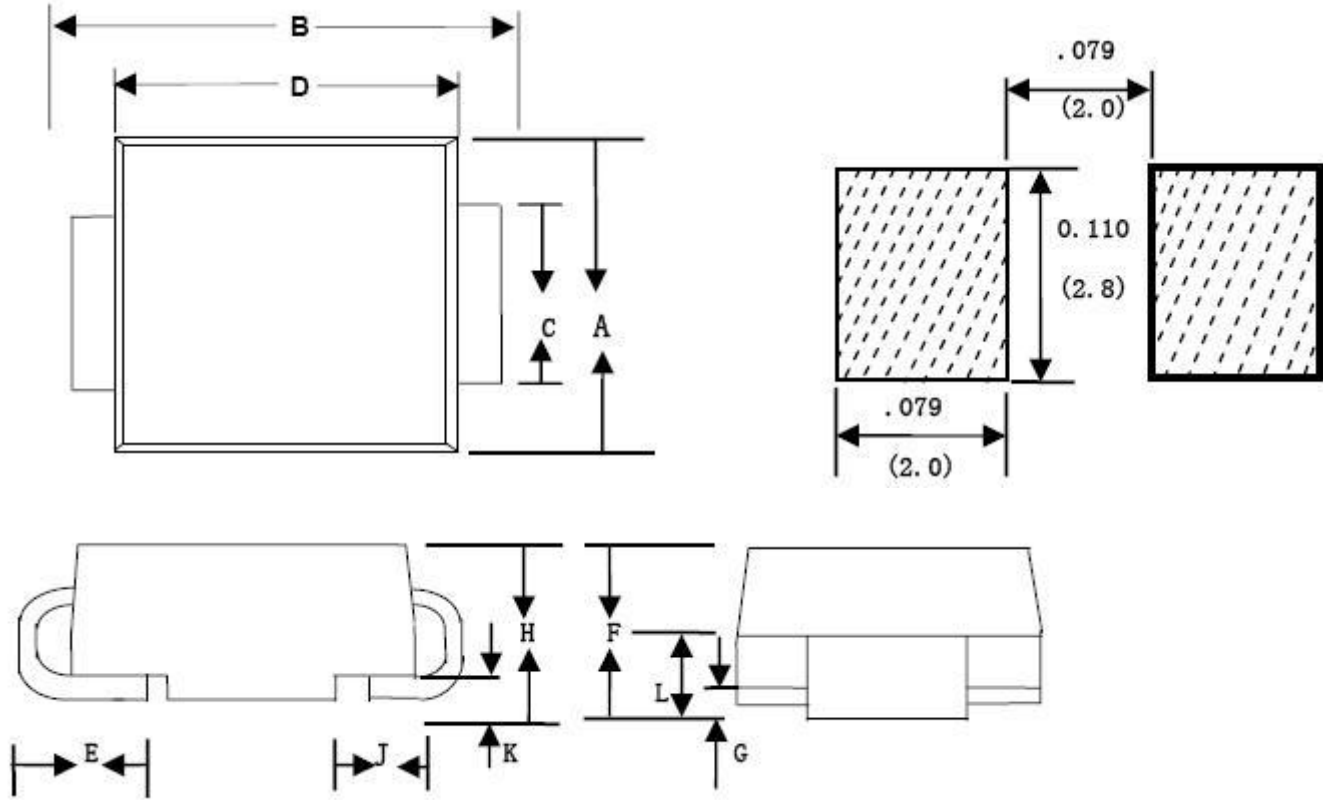
Series	I _{pp} 2x10μs	I _{pp} 8x20μs	I _{pp} 10x160μs	I _{pp} 10x560μs	I _{pp} 10x1000μs	I _{pp} 5x320μs	I _{pp} 5x310μs	I _{pp} 10x360μs	I _{TSM} 50/60Hz	di/dt
	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps/μs
B	250	250	150	100	80	100	100	125	25	500

Package	DO-214AA/SMB	Symbol	Parameter	Value	Unit
		T _J	Operating Junction Temperature Range	-40 to +150	°C
		T _S	Storage Temperature Range	-65 to +150	°C
		R _{θJA}	Junction to Ambient on prited circuit	90	°C /W

Description of Part Number



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Dimension	Inches		Millimeters	
	Min	Max	Min	Max
A	0.134	0.155	3.40	3.94
B	0.205	0.22	5.21	5.59
C	0.075	0.083	1.90	2.11
D	0.166	0.185	4.22	4.70
E	0.036	0.056	0.91	1.42
F	0.073	0.087	1.85	2.2
G	0.002	0.008	0.05	0.20
H	0.077	0.094	1.95	2.40
J	0.043	0.053	1.09	1.35
K	0.008	0.014	0.20	0.35
L	0.039	0.049	0.99	1.24

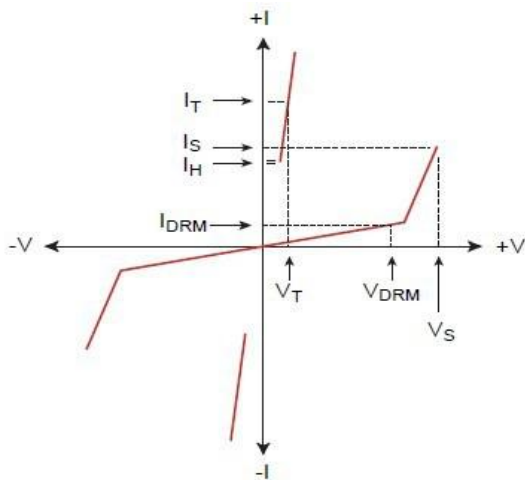
Packing Options



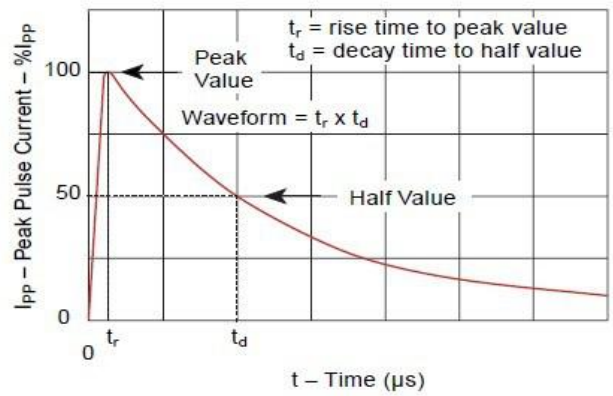
Package Type	Description	Packing Quantity	Industry Standard
P31B	DO-214AA Reel Pack	2500 PCS	EIA-481-D

Characteristics Curve

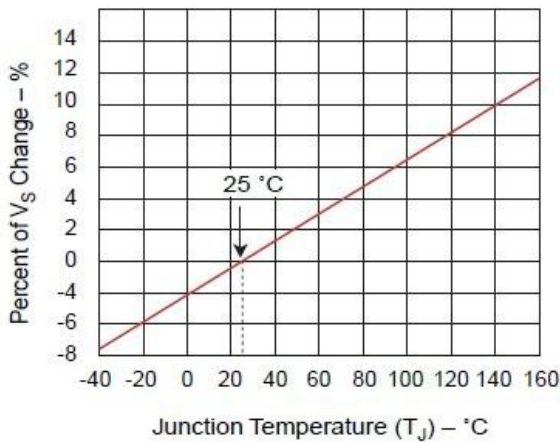
V-I Characteristics



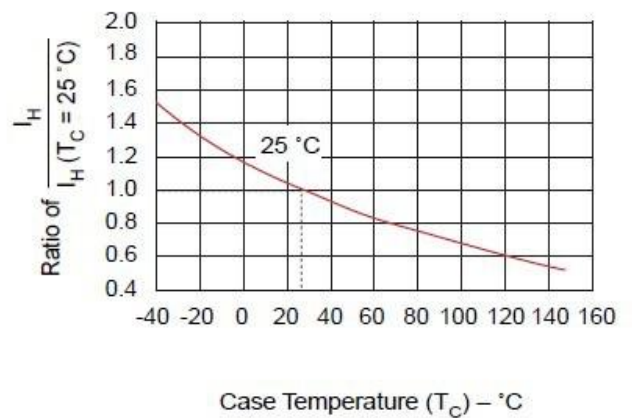
Tr x Td Pulse Waveform



Normalized V_S Change Versus Junction Temperature



Normalized DC Holding Current Versus Case Temperature



Specifications are subject to change without notice

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